# Why You Should Heed the Warning Signs

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"A bolt of lightning flashed about 50 yards away, and then I saw a shipmate yelling, jumping and holding his leg." That's how a witness described the misadventure of a Sailor who waited too long to reel in his fishing line and head for cover in a thunderstorm.

The Sailor had been fishing from a pier when it started raining. "I noticed some lightning strikes nearby, but the fish were biting," he said afterward.

The witness ran over to see if the shipmate was OK and to help him to his ship. En route, he started shaking. A physical exam revealed no entry or exit burns, and an EKG check was within normal limits. However, an ambulance took the victim to a nearby hospital for observation and another EKG check. The results again were normal, so doctors released him.

Lightning strikes a tree...

This Sailor is lucky he wasn't among the 80 people reportedly killed or more than 400 injured by lightning each year in the United States. Most of these deaths and injuries are preventable. The simplest precaution is don't make yourself an easy target or stand next to one, such as under a tree or pole. The general rule is if you can hear thunder, you are close enough to a storm to be struck by lightning and immediately should move to cover.

Thunder occurs when the air around a lightning bolt rapidly expands from the sudden heat (temperature of a lightning bolt is about 50,000 degrees Fahrenheit) and then cools as it dissipates. This heating and cooling produces a shock wave, which we hear as thunder. Sound travels about one mile every five seconds. By watching the time between a flash of lightning and the rumble of thunder, you can estimate how many miles away the strike was. For example, if you see lightning, then hear thunder 10 seconds later, the strike occurred about two miles away.

You typically can hear thunder up to five or six miles away, which would be within 30 seconds from flash to rumble. You can return to your activities after thunder has not been heard for 30 minutes (sometimes referred to as the "30/30 rule"). If the last flash was determined to be three or five miles away, you cannot assume the next one will be at or near the same distance. A study in Florida showed that the average distance between successive lightning strikes is two to three miles.

When an electrical charge begins to build before a lightning strike, it feels similar to the buildup of a static-electricity charge. You may feel or see your hair standing up. This sensa-

tion is a sign that lightning is about to strike. If you can't take cover immediately in an enclosed vehicle or building (with windows and doors shut), you need to squat. Get as low to the ground with as little of your body touching it as possible.

Lightning can strike up to 10 or 15 miles from the rain portion of a storm. In these cases, the lightning bolt originates from the upper part of the thunderstorm cloud (known as the anvil). A thunderstorm can grow up to eight miles into the atmosphere, where strong winds aloft spread the top of the thunderstorm cloud into an anvil. Although the anvil can spread many miles from the rain portion of the storm, it still is a part of that storm.

If you're ever caught outdoors in a thunderstorm and can 't reach shelter, get in this position and place your hands over your ears to minimize hearing damage from the thunder.

...The tree looked like this after the lightning hit it.

Lightning bolts from the anvil may strike several miles ahead of the rain. They also may come from the side or back of the storm, striking after the rain and the storm seemingly have passed or hitting areas that missed the rain. The sun still may be shining at the time of a strike, which causes some people to ignore the danger. That's why you hear comments about lightning striking out of the "blue," when it's really from a nearby thunderstorm.

Here are some tips for your protection:

- Plan your evacuation and safety measures in advance. When you first see lightning or hear thunder, activate your emergency plan. Now is the time to go to a building or a vehicle. Lightning often precedes rain, so don't wait for the rain to start before suspending activities.
- If outdoors, avoid water, high ground, and open spaces. Avoid all metal objects, such as electric wires, fences, machinery, motors, and power tools. Don't get under canopies or picnic or rain shelters, and stay away from trees. When possible, take shelter in a building or a vehicle with the doors and windows shut. If you can't reach shelter, crouch down, put your feet together, and place your hands over your ears to minimize hearing damage from thunder. Stay at least 15 feet from other people.
- If indoors, avoid water, and stay away from doors and windows. Don't use a telephone. Take off headsets. Turn off, unplug, and stay away from appliances, computers, power tools, and TVs. Lightning may strike exterior electric and phone lines, causing shocks to inside equipment.
- Suspend activities for 30 minutes after you see the last lightning or hear the last thunder.
- It's safe to handle injured persons because they do not carry an electrical charge. Apply first aid to a lightning victim if you are qualified. Call 911 or immediately send for help.